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PART VI

ENVIRONMENTAL PROTECTION AGENCY

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CONTROL OF AIR POLLUTION FROM NEW MOTOR VEHICLES AND NEW MOTOR VEHICLE ENGINES

Revision to Emission Testing Procedure

[6560–01]

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 86]

[FRL–779–1]

CONTROL OF AIR POLLUTION FROM NEW MOTOR VEHICLES AND NEW MOTOR VEHICLE ENGINES: CERTIFICATION AND TEST PROCEDURES

Revision to Emission Testing Procedure

AGENCY: Environmental Protection Agency.

ACTION: Proposed rulemaking.

SUMMARY: This is a proposal to amend the procedures (40 CFR Part 86) by which new light-duty vehicles (LDV's) and new light-duty trucks (LDT's) are tested for purposes of determining compliance with applicable Federal regulations established under the authority of the Clean Air Act, as amended. The proposed action would permit EPA to test these vehicles with their engines adjusted to any setting within the physically adjustable range prior to testing, rather than set precisely to the manufactuer's specifications. The Environmental Protection Agency (EPA) is proposing this because data indicate that significant numbers of vehicles which were certified as being capable of meeting applicable emission standards (when operated in accordance with manufacturers' instructions and adjusted to manufacturers' recommended specifications) are exceeding the standards in actual use due to maladjustments. The purpose of this amendment is to require these vehicles to meet the standards even when maladjusted, or conversely to motivate manufacturers to effectively reduce the feasibility and likelihood of vehicles being adjusted to other than manufacturer's specifications.

DATES: Comments must be received on on before December 20, 1977.

ADDRESS: Written comments may be submitted to the Administrator, Environmental Protection Agency, Attention: Office of Mobile Source Air Pollution Control (AW–455), 401 M Street, SW., Washington, D.C. 20460.

FOR FURTHER INFORMATION CONTACT:

Paul Lapsley, Regulatory Management Staff, Office of Mobile Source Air Pollution Control, Environmental Protection Agency, Washington, D.C. 20460, 202–755–0596.

SUPPLEMENTARY INFORMATION:

Background and Purpose

Currently, to determine compliance with emission standards in certifying new vehicles for sale and during testing of new production motor vehicles under the Selective Enforcement Auditing (SEA) program, EPA tests vehicles with their various adjustable parameters (e.g., ignition timing, idle air/fuel mixture) set to the manufacturer's specifications. However, these parameters are amenable to adjustment on in-use vehicles to settings other than those prescribed by the manufacturer. Such maladjustment can cause a vehicle that demonstrated emission compliance in certification and SEA to substantially exceed standards in use.

There are a number of possible reasons for the occurrence of such in-use maladjustments. Non-adherence by mechanics to manufacturer's instructions is probably prevalent, for many mechanics are believed to adjust an engine by outdated procedures that they learned some time ago and that are improper for new, emission-controlled cars and trucks. In addition, many mechanics believe that adjustments to specifications other than the manufacturer's will cure driver-perceived performance compalints about acceleration, quality of idle, and cold starting.

The Environmental Protection Agency has monitored exhaust emissions from in-use vehicles since 1971 in a program commonly referred to as the Emission Factor Program (EFP). This monitoring has established that many in-use vehicles generate emissions substantially in excess of the standards for which they were originally certified. It was found from the analysis of the FY 74 EFP [1] that 63 percent of the 1975 model year vehicles that were tested failed to meet the standards for one or more pollutants. Of 587 1975 model year vehicles tested, 49 percent failed because of high CO levels only or in combination with other pollutants. Another study, called the Restorative Maintenance Study, was initiated to better evaluate why such a large percentage of these vehicles had excessive emissions and to determine if normal emissions performance could be restored. The preliminary results from this study [2] provide more definitive information about the frequency of occurrence of maladjustment and disablement. About 47 percent of the one hundred vehicles tested in one city had broken or missing idle limiter caps, and 33 percent were considered to have had a maladjusted idle mixture (greater than 0.5 percent CO at idle). Approximately 21 percent of the vehicles tested in that city exhibited problems with the exhaust gas circulation (EGR) system, 21 percent had problems with the spark advance system, 12 percent had problems with the air induction system and 23 percent had problems with the choke system. The idle mixture problems, most of the spark advance and most of the choke problems are in the category of maladjustment, whereas EGR and air induction system problems are considered disablement problems. The significant result of these preliminary findings is that most of those vehicles initially failing the FTP because of maladjustment were determined to be in compliance after measures were taken to restore the vehicles to a proper state of adjustment.

To reduce excess emissions due to maladjustment of emission sensitive parameters, this proposed change in the regulations provides that any LDV or LDT which has adjustable engine or emission control parameters may be tested or caused to be tested by the Administrator at any setting selected by EPA within the physically adjustable range. As a matter of practice, it is anticipated that even after this regulation is promulgated the adjustable settings on test vehicles will still in most cases be set as recommended by the manufacturer, since it is expected that the manufacturer will physically limit or preclude the adjustability of these parameters to settings other than those recommended.

Making it difficult to maladjust vehicles is, of course, the intended purpose of the proposed regulation. If EPA determines that it is reasonable to expect a particular vehicle design to be adjusted in-use to settings beyond the manufacturer's specifications, EPA will test the vehicle adjusted to such settings. Thus, the net effect of this revision of the testing procedures will be to foster limited adjustability of certain parameters (or to render such adjustments as are retained irrelevant from an emissions perspective), and thus provide greater assurance that new motor vehicles beginning with the 1980 model year will comply with the emission standards while in actual use. By requiring test vehicles to meet emission standards in a state of adjustment that is more likely to occur in vehicles in use, this proposal would not cause EPA's emission standards to be more stringent than those prescribed by section 202 of the Act.

This regulation will be applied primarily in the Certification and Selective Enforcement Audit phases of the Federal Motor Vehicle Control Program, but will also be applicable across all elements of that program to the extent that it clarifies that vehicles certified and subject to SEA audit under its provisions will be deemed properly maintained with regard to adjustable parameters as long as they are set anywhere in the physically allowable range of adjustability.

These regulations will not alter current EPA practice with regard to testing in support of recall activities under section 207 of the Clean Air Act. For purposes of such testing vehicles that are determined to be adjusted within the physically adjustable range will be tested in their "as-received" condition. A determination for purposes of certification or SEA that any parameter has a limited physical range of adjustability will not constitute a determination of the physical limitations on the adjustment, insofar as vehicles in-use are concerned. Accordingly, vehicles found in states of adjustment beyond the limits conformed with during certification or SEA may still be considered to be properly main-

[1] Copies of this study, "Automobile Exhaust Emission Surveillance Analysis of the FY 1974 Program—EPA 460/3–76–019" (September, 1976), may be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 2261.

[2] Copies of this study, "Interim Report on the Restorative Maintenance Program for 1975–76 Model Year Vehicles" (February, 1977), are available from the Printing Management Section (PM–215), Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

tained and used for the purposes of recall or emission warranty claims under section 207, assuming all other relevant criteria for proper maintenance and use are met.

Throughout the preamble, the terms "adjustable" parameters and "adequate" or "inadequate" physical limits are the result of determinations based on information considered during certification. These determinations may subsequently be revised if available evidence indicates a revision is appropriate. For example, if production vehicles are manufactured with physical limits on an adjustable component which do not in fact limit adjustment, the limits may be exceeded during SEA. Similarly, although a parameter may be considered inaccessible during certification due to, for instance, the adequacy of a seal on the prototype hardware, if at the time of an SEA inspection it has been determined that in actual use the seal is frequently removed, such seal may be removed and the adjustment mechanism adjusted to its physical limits in SEA.

Alternatives Considered

A number of alternative actions, other than the proposed amendment to the certification regulations, were considered as having the potential for ameliorating the problem of excessive emissions from in-use vehicles resulting from maladjustment of vehicle parameters. These alternatives, and the reasons for rejecting them in favor of the proposed action, are discussed below.

1. *Prohibit most maintenance during the 50,000 mile durability test.* The certification testing regulations allow manufacturers to perform certain maintenance operations during durability testing at the same mileage intervals that will be specified in the manufacturer's maintenance instructions furnished to the ultimate purchaser, to the degree that such maintenance is reasonable and likely to be performed in actual use.

Consideration was given to revising the testing regulations to prohibit most maintenance at any point during the 50,000 mile test procedure. Such a revision to the regulations would require manufacturers to initiate changes in vehicle design to minimize the need for maintenance. However, such a requirement would not necessarily result in manufacturers eliminating or limiting adjustable parameters. Therefore, even though not recommended by the manufacturer, adjustments could still be made which adversely affect the emissions performance of the vehicle. Such adjustments may be made in an attempt to improve some driver-perceived performance characteristic of the vehicle (cold start, idle, etc.) and would be likely to occur if the adjustments were easily performed. Thus, prohibiting most maintenance during certification testing would not preclude the possibility of in-use vehicles being maladjusted.

2. *Promulgate action to prevent both maladjustment and disablement.* The Restorative Maintenance Study, cited above, identified two major problem areas associated with in-use emissions performance: disablement and maladjustment of emission control systems.

Disablement of emission control systems can include such things as disconnected or crimped vacuum lines, broken pressure transducers, bent EGR control bodies, etc., and in all cases appears to involve purposeful action to counteract the function of emission control devices. Maladjustment of emission control systems and adjustable engine parameters, on the other hand, appear to be the result of less than full competence on the part of service personnel, of attempts to improve perceived vehicle performance, or of accidental occurrences (e.g., adjustment screws vibrating loose).

The preliminary results of the Restorative Maintenance Study suggest that elimination of both maladjustment and disablement problems would be desirable. Unfortunately, the technological problems and associated costs involved in completely precluding disablement currently appear to be prohibitive. With enough time, skill, effort, tools and determination, anything can be done to disable emission controls. However, some emission control components are amenable to changes in construction which would reduce the likelihood of disablement (e.g., to ensure that air pumps are not disabled by simply cutting the drive belt provide that another essential component such as the alternator or water pump is driven by the same belt and, to prevent substituting belts which would bypass the air pump, provide that the air pump pulley is placed so as to interfere with a drive belt which would directly couple the driving pulley to the alternator). Therefore, EPA is requesting comments regarding any means by which emission control components could be made less susceptible to disablement. These comments should address the economic and technological aspects of implementing any proposed method to reduce disablement and will be considered in the development of the final rule.

Although it is not at this time feasible to propose specific means to alleviate the disablement problem, EPA will consider proposal and promulgation of feasible, cost-effective means of doing so in the context of this rulemaking.

3. *Rely on in-use inspection and maintenance programs.* Successful inspection and maintenance (I/M) programs will result in most maladjusted vehicles being properly adjusted after they fail inspection tests. However, as owner-perceived deficiencies in vehicle performance may result in mechanics adjusting certain parameters (such as idle mixture) to a condition other than that specified by the manufacturer, it is reasonable to postulate that even vehicles subject to an I/M program may, to some degree, again be maladjusted fairly quickly after passing an I/M retest, if the vehicle owner is dissatisfied with the performance of his vehicle after the retest. In addition, certain other parameters (such as choke settings) cannot be checked in an I/M test at all. Hence I/M is not an alternative to the porposed action. This change in the regulations will buttress the effectiveness of I/M, and will make I/M more cost effective, by preventing maladjustments that I/M cannot catch and by making it less likely that cars passing an I/M retest will be again purposefully maladjusted.

Implementation of Proposed Action

If the proposed action is taken, implementation would involve testing of certification emission data or SEA vehicles under adjustment conditions that are, from an emissions perspective, deemed by EPA to make it likely that the vehicle will fail to comply with the standards. The testing procedure for durability vehicles would not change since to do so would make achievement of the purpose of the durability vehicle impossible, i.e., the development of a deterioration factor that reflects the rate of change of emission control effectiveness. The procedure for determining a deterioration factor requires that a single test vehicle be representative of a particular engine-system combination that may encompass a number of different vehicle configurations which may, for reasons of optimizing performance and fuel economy, utilize varying engine calibrations. Therefore, it would be impractical to adjust the durability vehicle to a condition which would be representative of all of the vehicle configurations to which the deterioration factor would apply. For this reason, it is necessary to continue to employ the manufacturer's specifications in durability testing.

Adjustments by EPA prior to emissions testing may involve parameters on control systems such as the evaporative emission control system, ignition system, exhaust gas recirculation system, air injection system, fuel management system or others which could adversely affect emissions. The following is a list of specific parameters of immediate concern to EPA that have been identified in surveillance studies of in-use vehicles as being frequently maladjusted, or otherwise identified as having significant potential for maladjustment with concomitant increases in emissions:

1. Carburetion System—Idle mixture, idle speed, part (or full) throttle mixture, accllerator pump, fuel level adjustment (float) in fuel bowl, choke valve action (e.g., spring tension and vacuum pull-off adjustments), and dash pot (deceleration).
2. Fuel Injection System—Idle mixture, idle speed, injection timing, fuel pressure, full load fuel stop (Diesel), and adjustable sensors that can affect air fuel computation in electronic fuel injection.
3. Ignition System—Spark timing.

The purpose of listing these parameters is to provide guidance to interested parties regarding certain parameters that will be considered by EPA for adjustment prior to testing if this proposal is adopted. However, in order to retain the flexibility nècessary to deal with future and as yet unidentified maladjustment problems, EPA proposes to retain the discretionary authority to adjust any adjustable parameter, prior to certification or SEA testing, that may result in emissions exceeding the standards.

Determining Which Parameters Are Adjustable

The implemetation of the proposed action would require EPA make a determination regarding each certification emission data or SEA vehicle as to which vehicle parameters are considered to be adjustable. This determination will be based on EPA's evaluation of individual new vehicle's design, and on information submitted by the manufacturer.

The review and evaluation of adjustment limitation information and hardware provided by the manufacturers pursuant to these regulations could not properly be construed as a final determination of non-adjustability or an approval by EPA of the manufacturers' adjustment limiting designs. It would be the ultimate responsibility of manufacturers to assure that vehicles are designed and built with limitations on adjustable parameters that are of such a nature as to successfully assure that the limitations will not be generally exceeded in a manner that causes such vehicles to exceed emission standards during their useful lives.

Due to the many different basic types of parameters, the different available approaches to sealing or otherwise making the parameter inaccessible and the different configurations of the adjustable components, it appears to be impractical to define a general criterion that could be used in all possible situations to make the determination of whether a parameter is adjustable. Of particular difficulty to define is whether a parameter adjustment is sufficiently inaccessible as to be determined effectively non-adjustable for purposes of certification testing. For example, an idle mixture adjustment screw located in a recessed hole that is plugged with a hard-to-remove material, so that the carburetor or other major components would have to be removed before the plug can be drilled out to gain access to the screw, would be deemed to be sufficiently inaccessible. On the other hand, an idle adjustment screw located in the throat of the carburetor and readily accessible with mere removal of the air cleaner would not be deemed sufficiently inaccessible. There does not appear to be any good way to generically define what represents an adequate seal or precisely what constitutes a sufficiently inaccessible adjustment. Therefore, EPA proposes to base its determination of whether a parameter is adjustable upon technical evaluations of individual vehicle designs, results of the EPA in-use surveillance programs (and extrapolation of those results to similar new systems), and consideration of data provided by the manufacturer.

Although EPA could not propose a specific set of criteria for use in making determinations as to whether a parameter would be considered adjustable, general guidance can be provided regarding the adequacy of a range of specific methods which might be employed to render a parameter non-adjustable. The following examples have been chosen to provide such guidance through statements of EPA's evaluation of specific methods which may be employed to render a parameter non-adjustable.

(1) Idle Mixture Screw—The idle mixture would probably be considered to be non-adjustable if the idle mixture screw is recessed within the carburetor casting and sealed with lead, thermosetting plastic, or an inverted eliptical spacer, or sheared off after adjustment at the factory, in such a way that the adjustments cannot be accomplished in any of these circumstances with simple tools in a short time period (approximately one-half hour).

The idle mixture will be considered to be adjustable if the only deterrent to adjustment consists of a plastic cap placed over the idle mixture screw.

(2) Choke Bimetal Spring Cover—The choke mechanism will be considered to be nonadjustable if the plate covering the bimetal spring is riveted or welded in place, or held in place with nonreversible screws.

The choke will be considered to be adjustable if the plate covering the bimetal spring is merely held in place with screws which can be removed with the use of simple or inexpensive tools whether or not such tools are common or of special design.

(3) Elongating or Bending Adjustable Members—Parameters which may be adjusted by elongating or bending adjustable members (e.g., the choke vacuum break) will probably be considered nonadjustable if the elongation of the adjustable member is limited by design or, in the case of bendable members, is constructed of a material which when bent would return to its original shape after the force is removed (plastic or spring steel materials).

Parameters which may be adjusted by elongating or bending adjustable members will be considered to be adjustable.

While these examples do not encompass every possible adjustable parameter, or the many possible methods which could be employed to render an adjustment effectively nonadjustable, the guidance provided by these specific illustrations may be applied to many analogous situations. As further guidance it should be noted that any parameter meeting the following conditions would be considered adjustable: (1) the parameter was adjusted prior to the vehicle being delivered to the dealer and the adjustment mechanism was not disabled, (2) manufacturer service manuals or bulletins contain procedures for adjusting the parameter or statements indicating that it can be adjusted, or (3) the parameter can be adjusted quickly (in less than one half hour) and inexpensively (cost less than $20 including any replacement of parts) with the use of simple or inexpensive tools whether or not such tools are common or of special design. The general criteria to be used in determining whether a parameter is adjustable and whether an adjustment limiter is likely to be effective will be the reasonableness of expecting that such adjustment will be made on in-use vehicles in the hands of the public. Comments are specifically requested on these criteria.

Will the Parameter Be Adjusted Prior to Testing?

Even though EPA determines that a particular parameter is adjustable it does not necessarily follow that the parameter will be adjusted to a setting other than that recommended by the manufacturer prior to testing administered for purposes of certification or SEA. Further, the setting selected for SEA testing may be different than that used during certification testing. While EPA retains the discretionary authority to adjust any adjustable parameter prior to testing, EPA's decision regarding whether to adjust a particular parameter may, among other things, be made on the basis of its judgement of (1) the effect on emissions performance resulting from any deviation from the manufacturer's recommended setting, (2) the effect on vehicle driving performance, (3) the likelihood that similar adjustments will be made on in-use vehicles.

If EPA concludes that deviating from the manufacturer's recommended setting for a particular parameter, independently or in combination with adjustments of other parameters, will not adversely affect the emissions performance of the test vehicle, the vehicle will be tested with that parameter set to the manufacturer's recommended setting. However, if EPA concludes that deviating from the recommended setting will be likely to affect adversely the emissions performance of the vehicle the parameter may be adjusted to that setting which would be expected by EPA to result in the highest emissions. In deciding whether to make such adjustments prior to testing EPA may also take into consideration factors regarding the likelihood that similar adjustments will occur in the field (e.g., whether there exists any incentive to vehicle owners or service personnel to make such maladjustments).

Will the Manufacturer's Limits Be Exceeded?

Once EPA has determined a parameter to be adjustable and decided to adjust the parameter to a setting other than that recommended by the manufacturer, an evaluation of the adequacy of any limits the manufacturer has placed on the physically adjustable range will be made. If EPA determines that the limit is likely, in practice, to preclude adjustments beyond the range defined by the manufacturer's limits, EPA will not exceed these limits when adjusting the parameter prior to testing. However, if EPA determines that the manufacturer's limits are not adequate to constrain adjustment of the parameter within the range defined by the manufacturer's limits, EPA may disregard or overcome the manufacturer's limits and set the adjustable parameter to some setting arrived at from considerations made in the preceding section.

Difficulties similar to those encountered when attempting to determine whether a parameter would be consid-

ered adjustable arise when attempting to determine whether the physical limits employed on an adjustable parameter are sufficient to prevent adjustment beyond the limits (i.e., there do not appear to be any general criteria that can be used to determine whether a limit is adequate). Therefore, guidance is provided by way of example in the following paragraphs regarding certain methods which EPA has determined constitute an adequate means of limiting the physically adjustable range.

A physical limit would generally be considered adequate provided that travel or rotation limits could not be exceeded with the use of simple and inexpensive tools (screwdriver, pliers, open-end or box wrenches, etc.) without incurring significant and costly damage to the vehicle or control system. Stops that can readily be broken off or otherwise eliminated without disabling the component's function may be broken off or otherwise overridden prior to certification or SEA testing. Limits on threaded adjustments would be considered adequate if the threads were terminated, pinned or crimped so as to prevent additional travel without breakage or need for costly repairs. A physical limit would be considered adequate if the adjustment were ineffective at the end of the limits of travel regardless of additional forces or torques applied to the adjustment.

For manufacturers who use these or similar solutions to limit adjustability, the determination is non-controversial. Not so clear would be the determinations of the situations which fall between the clearly adequate and the clearly inadequate extremes. Although such situations are expected to occur infrequently, the determination would have to be based on basic technical evaluation, results of the EPA in-use surveillance programs (and extrapolation of those results to similar new systems), and consideration of data provided by the manufacturer.

EPA believes that retaining substantial discretion to select the settings at which vehicles are tested, guided by the factors described above, is the best way to ensure that test vehicles meet emission standards in a state of adjustment that is likely to occur in vehicles in use. However, suggestions of any preferable methods of doing this are invited.

How Will the Proposed Action Affect the Manufacturers?

It is expected that manufacturers generally will eliminate adjustable parameters. At the time of manufacture of the vehicle they will set the parameters to the proper values, allowing for tolerance stack-up, and will then fix them in position. Assuming that these parameters are then either inaccessible or unadjustable, the vehicles would then be tested in only this one configuration. Some manufacturers may retain some parameter adjustability, but would effectively limit the physically adjustable range to values which would control emissions within the standards.

In designing their vehicles, manufacturers often make trade-offs among factors such as emissions, fuel economy, costs, and vehicle performance. The settings specified by a manufacturer for adjustable parameters will normally be those at which he has sufficient confidence that the vehicle will meet emission (and fuel economy) standards, without incurring more cost or sacrificing more vehicle performance than absolutely necessary. However, many mechanics believe that driver-perceived vehicle performance can be improved by changing one or more of the adjustable parameters. The manufacturer will under these regulations have a large incentive to fix or limit these parameters. This incentive arises from the fact that a manufacturer who fails to fix or limit these parameters runs a large risk of the vehicle failing to qualify for certification or failing a Selective Enforcement Audit when tested by EPA.

In the past some problems with vehicle driving performance may have been masked by service personnel inappropriately adjusting vehicle parameters to overcome problems with driving performance and ignoring the effects of the adjustment on emissions performance. Inasmuch as this action will deprive service personnel of this method of overcoming driving performance problems this action may, in some cases, result in the inability of service personnel to remedy driving performance problems. It is expected that the manufacturers will address those problems with driving performance as may exist by ensuring in the design of their vehicles that they perform adequately when adjusted to specifications.

Economic Impacts

Increased costs to new vehicles as a result of this action are expected to be negligible. A majority of new vehicles are already equipped with electronic ignition control systems, some manufacturers have already introduced electronic fuel-air management systems, and by the 1980 model year it is expected that much of the industry will have adopted to some degree electronics for emission and combustion control. Such systems, by design, limit parameter adjustability. Although use of advanced technology will make it easier for manufacturers to comply with the regulation, advanced technology is not required for compliance. Physical limits of adjustability should require little more than minor casting changes (estimated at about $0.50 per unit) and/or limiting pins or sealing/plugging strategies (estimated at about $0.20 each). An incremental cost of $3 per vehicle is estimated to be an extreme case for compliance in most cases. Consequently, no detailed Economic Impact Analysis has been prepared for this action.

This action will provide a more effective implementation of the existing regulatory intent that all vehicles meet the emission standards for their useful life. Fuel economy is expected to be improved over the useful life of these vehicles since the opportunity for maladjustments, which are generally to the detriment of fuel economy, will be limited by this regulation.

Environmental Impact

This change to the regulatory test procedure is intended to preserve the original intent of the testing procedure, and should result in a significant improvement in air quality.

Had this regulation been in effect for the 1975 model year vehicles, their contribution of CO emissions alone would have been reduced an average of about 11 grams per mile for the 1975 model year population, or 48%.

Request for Comments

(1) It is EPA's judgment that, in the past, some certified vehicles have exhibited less than optimum performance characteristics (poor idling, poor acceleration, difficulty in starting when cold). This is believed to have resulted in the field in adjustment of some emission-sensitive engine parameters in an attempt to improve driving performance. The promulgation of these regulations will make such adjustments much more difficult to accomplish. Therefore, it is expected that either (a) the manufacturers will take measures to ensure that their vehicles perform acceptably when adjusted to settings within the physically adjustable range or (b) there may be incidence of vehicle owners or members of the service industry attempting to improve driving performance by disabling emission control components.

Therefore, EPA requests comments regarding the manufacturer's ability to produce vehicles which conform to the proposed regulations and which will also retain acceptable driving performance throughout their useful life. Comments are also requested regarding any means which manufacturers might use to prevent disablement of emission control components.

(2) It is possible that limiting or eliminating the adjustability of certain vehicle parameters may, in some instances, increase maintenance costs. This may occur if, due to a manufacturer's inability to produce a vehicle which performs acceptably throughout its useful life, vehicle performance deteriorates such that early replacement of engine components is required. In the absence of the proposed regulations vehicle parameters might have been adjusted to compensate for the deterioration. However, with the implementation of the proposed regulation it will no longer be possible to correct performance deficiencies resulting from deterioration by simply adjusting vehicle parameters. EPA requests comments regarding the likelihood and magnitude of this impact on the automotive service industry.

(3) Comments are also requested regarding the effect which mileage accumulation in actual use might have on the driving performance and maintenance requirements of vehicles subject to these regulations (i.e., vehicles which have limited parameter adjustability).

(4) In view of the need to calibrate certain engine parameters to settings for vehicle operation in high altitudes dif-

ferent from those for low altitude operation, it is expected that there will be some need for a procedure by which vehicles produced for sale in low/high altitudes and subsequently relocated (e.g., as a result of the vehicle owner changing residence) to a high/low altitude region could be calibrated to perform properly in the new environment. Comments should address the technological and administrative problems associated with any recommended procedure for recalibrating vehicles which are relocated subsequent to original sale.

In addition, EPA is particularly interested in receiving comments regarding the estimated costs of complying with the proposed regulations.

Interested persons may participate in this rulemaking by submitting written comments to the Administrator, Environmental Protection Agency, Attention: Office of Mobile Source Air Pollution Control (AW-455), 401 M Street SW., Washington, D.C. 20460. All relevant material received within 60 days after the date of publication of this notice will be considered.

A copy of all public comments will be available for inspection and copying at the U.S. Environmental Protection Agency, Public Information Reference Unit, Room 2922 (EPA Library), 401 M Street SW., Washington, D.C. 20460. As provided in 40 CFR Part 2, a reasonable fee may be charged for copying services.

Final regulations, modified as the Administrator deems appropriate after consideration of comments, are intended to be promulgated as soon as practicable after such consideration, to be applicable no sooner than model year 1980 to light-duty vehicles and light-duty trucks.

Notice is hereby given that Subparts A and G of Part 86 of Title 40 of the Code of Federal Regulations are proposed to be revised as set forth below.

NOTE.—The Environmental Protection Agency has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Analysis under Executive Orders 11821 and 11949 and OMB Circular A-107.

Dated: October 11, 1977.

DOUGLAS M. COSTLE,
Administrator.

It is proposed to amend 40 CFR Part 86 as follows:

1. In § 86.077-21, by adding new paragraphs (b)(1)(i) and (ii) as follows:

§ 86.077-21 Application for Certification.

* * * * *

(b) * * *

(1) * * *

(i) The manufacturer shall provide to the Administrator in the preliminary application for certification:

(A) A list of those parameters which are physically capable of being adjusted and that, if adjusted to settings other than the manufacturer's recommended setting, may affect emissions;

(B) A specification of the physically adjustable range of each such parameter as intended by the manufacturer;

(C) A description of the limits or stops used to establish the physically adjustable range of each adjustable parameter, or any other means used to inhibit adjustment;

(D) The nominal or recommended setting for each such parameter.

(ii) The manufacturer may provide, in the preliminary application for certification, information relating to why parameters are not expected to be adjusted in actual use. This may include results of any tests to determine the difficulty of gaining access to an adjustment or exceeding a limit as intended or recommended by the manufacturer.

(iii) The Administrator may require to be provided detailed drawings and descriptions of the various emission related components, and/or hardware samples of such components, for the purpose of making his determination of whether and how to adjust such components to settings other than those recommended by the manufacturer.

* * * * *

2. In § 86.077-29 by revising paragraphs (a)(3)(iii)(A) and (a)(3)(iii)(B)(1) to read as follows:

§ 86.077-29 Testing by the Administrator.

(a) * * *

(3) * * *

(iii)(A) The Administrator may adjust or cause to be adjusted any adjustable engine or vehicle parameters, to any settings within their physically adjustable range, prior to conducting any tests (other than tests conducted during durability testing) which are conducted to determine whether a vehicle or engine conforms to applicable emission standards. The Administrator, in making or specifying such adjustments, may consider the effect of the deviation from the manufacturer's recommended setting on emissions and other performance characteristics as well as the likelihood that similar adjustments will be made on in-use light-duty vehicles or light-duty trucks. In determining likelihood, the Administrator may consider factors such as, but not limited to, the difficulty and cost of making the adjustments, the need for and cost of special tools, damage to the vehicle or engine components in the event of any effort to make the adjustments, the need to replace parts following the adjustment, or surveillance information from similar in-use vehicles.

(B) * * *

(1) The manufacturer may request a retest. Before the retest, the vehicle may be readjusted to the parameter settings used in the original test or any other settings chosen by the Administrator, and other maintenance or repairs may be performed in accordance with § 86.077-25. All work on the vehicle shall be done at such location and under such conditions as the Administrator may prescribe.

* * * * *

3. In § 86.608 by redesignating paragraph (b) to be paragraph (b)(1) and adding a new paragraph (b)(2) to read as follows:

§ 86.608 Test procedures.

* * * * *

(b)(1) * * *

(2) The Administrator may adjust or cause to be adjusted any adjustable engine or vehicle parameters, to any settings within their physically adjustable range prior to conducting any tests. The Administrator, in making or specifying such adjustments, may consider the effect of the deviation from the manufacturer's recommended setting on emissions and other performance characteristics as well as the likelihood that similar adjustments will be made on in-use light-duty vehicles. In determining likelihood, the Administrator may consider factors such as the difficulty and cost of making the adjustments, the need for and cost of special tools, damage to the vehicle or engine components in the event of any effort to make the adjustments, the need to replace parts following the adjustment or surveillance information from similar in-use vehicles.

* * * * *

(Secs. 206(a), 206(b) and 301(a) of the Clean Air Act, as amended (42 U.S.C. 7525(a), 7525(b), and 7601(a).)[1]

[FR Doc.77-30789 Filed 10-20-77;8:45 am]

[1] The U.S. Code classifications of the Clean Air Act were changed upon publication of the Clean Air Act Amendments of 1977, Pub. L. 95-95, 91 Stat. 685 (August 7, 1977). The former classifications of these sections were 42 U.S.C. 1857f-5(a), 1857f-5(b), and 1857g(a).